



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,722	07/14/2003	Ching-Chung Lai	MR3003-49	4200

4586 7590 11/14/2005

ROSENBERG, KLEIN & LEE  
3458 ELLICOTT CENTER DRIVE-SUITE 101  
ELLICOTT CITY, MD 21043

EXAMINER

STIGLIC, RYAN M

ART UNIT PAPER NUMBER

2112

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/617,722

Applicant(s)

LAI ET AL.

Examiner

Ryan M. Stiglic

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 August 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14 and 18-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 14, 18 and 20 is/are rejected.  
7) ☒ Claim(s) 19 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 14 and 18-20 are pending and have been examined.
2. Claims 14, 18, and 20 are rejected.
3. Claim 19 is objected to.

### ***Response to Arguments***

4. Applicant's arguments, Matsuda fails to disclose or suggest establishment of a time period..., see Remarks page 7, filed August 31, 2005, with respect to the rejection(s) of claim(s) 14 under 35 U.S.C. § 102(e) [Matsuda] have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hannah necessitated by the addition of the limitation "...being used by said host controller..."

5. The rejections to claim 14-20 under 35 U.S.C. §101 and §112, second paragraph have been withdrawn in light of the amendment to the claims.

### ***Claim Objections***

6. Claim 14 is objected to because of the following informalities: Claim 14 recites, "A method for said USB controlling apparatus..." which provides a lack of antecedent basis for "said USB controlling apparatus." It is apparent to the Examiner that the applicant meant for claim 14 to read as follows, "A method for operating a USB controlling apparatus..." Claim 14

Art Unit: 2112

will be interpreted as such for the remainder of the Office Action. Appropriate correction is required.

7. Claims 18 and 20 are objected because of the following informalities: Claims 18 and 20 recite dependency on rejected claim 17. It is apparent to the Examiner that this is a typographical error and will treat claims 18 and 20 as being dependent on independent claim 14. Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 14 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al. (US 20030023804A1) in view of Hannah (US5784581).

For claims 14 and 18:

Matsuda teaches

A USB controlling apparatus adapted for data transfer between computers, said USB controlling apparatus comprising

- a host controller providing a host function of USB interface for said USB controlling apparatus (Fig. 1, 43a; [0061]);

- a device function circuit providing a device function of USB interface for said USB controlling apparatus (Fig. 1, 44a; [0062]);
- at least one connection port having a set of USB data lines D+ and D- for connecting to a USB device or a USB cable by way of data transfer (Fig. 1, 49; [0061]); and
- a path switch unit connected to said host controller, said device function circuit and said USB data lines, used to switch a connection path of said USB data lines between said host controller and said device function circuit (Fig. 1, 43b; [0061-0063]);
- a power adapting line (Fig. 1, line between devices 48a and 48b) with a power switch (Fig. 1, 48d), having one end connected to a power line on a motherboard and another end connected to USB device and USB cable (Fig. 1, PL+ line connected to VCC; [0069,0076]);
- a series connection of a pull-up resistor (Fig., 1, 47b) and a pull-up (Fig. 1 47a) switch crossing between said power adapting line and said data line D+ ([0066-0067]. The Examiner also realizes that Matsuda discloses the inverter 47a may be configured as a transistor switch [0129])
- setting a host function mode as a default operation mode of said USB controlling apparatus (Matsuda does not explicitly state which mode the device operates in by default. Instead Matsuda teaches that the operation mode of the device is determined automatically such that no matter what the previous mode of operation was the device would be switched to the correct function mode. Therefore the choice of which mode to place the device in as a matter of default is arbitrary in that there is no benefit to assigning default status to a certain mode because the automatic nature of the invention of

Matsuda insures the device will function in the correct operating mode when another device is attached to the device of Matsuda) wherein said data lines are connected to said host controller by said path switch [0063], said power switch is turned on [0076] and said pull-up switch is turned off (Paragraph [0074] discloses a pull-down switch that is activated when the device is in host function mode. This in effect is the same operation as having the pull-up switch turned off since the data is differentially amplified [0077] and there is no need to pull up the data terminal lines) when said USB controlling apparatus is operated in said host function mode;

- wherein said power switch is turned off [0079] and said pull-up switch is turned [0080] on when said connection path of said path switch is connected to said device function circuit;
- detecting whether said connection port is being used by said host controller [0073-0077];
- when said connection port is being used by said host controller, said USB controlling is operated in said host function mode [0073-0077];
- when said connection port is not being used by said host controller said USB controlling apparatus is switched to operate in a device function mode [0078-0081].

Matsuda however fails to explicitly teach waiting a predetermined waiting time for establishing a connection in device function mode.

Hannah teaches providing a predetermined waiting time (col. 2, ll. 25-27; col. 5, line 64 – col. 6, line 3) in which a device will use to determine the connection status between a multi-role device

Art Unit: 2112

and a host PC (col. 1, ll. 65-67; col. 5, line 30 – col. 6, line 51). In other words, Hannah teaches that when a PC is connected to a Port of a USB controlling apparatus (Fig. 5, 50) within a predetermined waiting time, the USB controlling apparatus acts in device function mode, else the USB controlling device acts in a host function mode [claim 18].

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to implement the USB activity monitor timer of Hannah into the USB controlling apparatus of Matsuda such that a system is provided for permitting communication between USB slave devices connected to a USB when the computer acting as a bus master is not present or not connected to the USB (Hannah, col. 1, ll. 55-58).

For claim 20:

Hannah teaches that the predetermined waiting time may be user defined (col. 7, ll. 23-25).

*Allowable Subject Matter*

10. Claim 19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Examiner has done a thorough search and found no prior art of record, alone or in combination, that teaches or fairly suggests the limitation, "detecting whether a connection is established for said USB controlling apparatus; if true, said USB controlling apparatus is

Art Unit: 2112

operated in said host function mode; else examining whether said connection is established within said predetermined waiting time; operating said USB controlling apparatus in said host function mode when said connection is established within said predetermined waiting time; switching said USB controlling apparatus to said device function mode when said connection is not established within said predetermined waiting time.” As stated above, the combination of Matsuda in view of Hannah teach initiating a USB controlling apparatus in a host function mode. Matsuda in view of Hannah also teaches that when a connection port is not being used by a host function the USB controlling apparatus operates in a device function mode. Matsuda in view of Hannah further teaches that if a connection cannot be established between a Host and the USB controlling apparatus, while functioning in device function mode, the USB controlling apparatus is operated once again in a host function mode. However, Matsuda in view of Hannah fail to teach the above-cited limitation where the USB controlling apparatus once again switches mode if a connection cannot be established when in host function mode. The Examiner notes that a problematic situation occurs when a device cannot establish connection in both host and device function mode. According to the claimed invention, the USB controlling apparatus will constantly switch between host function mode and device function if a connection cannot be established, thus never stably reaching an operating mode. As such the Examiner was unable to find prior art that taught and/or fairly suggested the limitation of “detecting whether a connection is established for said USB controlling apparatus; if true, said USB controlling apparatus is operated in said host function mode; else examining whether said connection is established within said predetermined waiting time; operating said USB controlling apparatus in said host function mode when said connection is established within said predetermined waiting time;



Art Unit: 2112

switching said USB controlling apparatus to said device function mode when said connection is not established within said predetermined waiting time” in combination with claimed subject matter from base claim 18.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it relates to the operation of dual-role devices.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan M. Stiglic whose telephone number is 571.272.3641. The examiner can normally be reached on Monday - Friday (6:00-3:30).

Art Unit: 2112

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571.272.3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RMS

**PAUL R. MYERS**  
**PRIMARY EXAMINER**